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| EXAMINER | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/535,052

Applicant(s)

HOFFMANN ET AL.

Examiner

BERNARD ROJAS

Art Unit

2832

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date 03/16/2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9, 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schedele [US 4,185,163] in view of Hendel [US 5,332,985] and in further view of Kern et al [US 6,252,476].

Claim 1, Schedele discloses a magnet system for a relay [figures 5 and 6] comprising: a core [figure 5, center portion of multi-component yoke 25 through the coil] partially enclosed by a coil [24]; a yoke [left portion of multi-component yoke 25] having a first yoke leg attached to a first end of the core [left portion of multi-component yoke 25 perpendicular to the core] and a second yoke leg extending parallel to the core [left

portion of multi-component yoke 25 above the coil 24], the second yoke leg having an armature mounting portion [figure 5] formed on an upper side of the second yoke leg remote from the coil; a pole [right portion of multi-component yoke 25] having a first pole leg [right portion of multi-component yoke 25 perpendicular to the core] connected to a second end of the core and a second pole leg extending parallel to the core [right portion of multi-component yoke 25 above the coil 24], the second pole leg having an upper surface substantially aligned with the armature mounting portion such that when an armature [26] is mounted on the armature mounting portion, a working air gap is formed between a coil-side armature face and the upper surface of the second pole leg [figure 5]; a fixed contact carrier [29] with a fixed contact [29].

Schedele shows a contact carrier [29] secured by insulating blocks [30 and 31] fails to teach exactly how the fixed contact carrier is secured to the insulating blocks.

Hendel discloses a magnet system for a relay [figure 1] wherein the contact carrier [12] has side portions to hold the contact carrier in coil pockets [figure 1].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the contact carrier of Schedele with side portions to hold the contact carrier in coil pockets as shown by Hendel in order to secure the contact carrier and fixed contacts inside the relay.

Schedele in view of Hendel fails to teach that the magnet system is extrusion coated with a plastic material, the coil, the yoke, the pole, and the fixed contact carrier being embedded in the plastic material.

Kern et al. teaches an electromagnetic relay wherein the magnet system is extrusion coated with a plastic material [11, 31], the coil [34], the yoke [61], the pole [62], and the fixed contact carrier being embedded in the plastic material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to extrusion coat the magnet system Schedele in view of Hendel as shown by Kern et al. in order to increase the reliability of the relay by protecting the components from wear and tear by sealing them from the external environment.

Claim 2, Schedele in view of Kern et al. discloses the claimed invention except for the upper surface of the second pole leg includes a crowned pole face. It would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the upper surface of the second pole leg in order to facilitate mounting the armature to that surface of the pole leg. Since applicant has not disclosed that a crowned surface solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the arrangement shown by Schedele.

Claim 3, Schedele discloses the magnet system according to claim 1, wherein the yoke is L-shaped [left portion of multi-component yoke 25, figure 5].

Claim 4, Schedele discloses the magnet system according to claim 1, wherein the pole is L-shaped [right portion of multi-component yoke 25, figure 5].

Claim 5, Schedele in view of Kern et al. discloses the claimed invention exception of the first pole leg being connected to the core by a U-shaped recess. It would have been obvious to one of ordinary skill in the art at the time the invention was

made to adjust the shape of the recess used to connect the first pole left to the core. Since applicant has not disclosed that using a U-shaped recess solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the arrangement shown by Schedele.

Claim 6, Schedele discloses the magnet system according to claim 1, wherein an edge of the armature mounting portion and an edge of the second pole leg are positioned such that a gap is formed therebetween that is bridged by the armature [figure 5].

Claim 7, Schedele discloses the magnet system according to claim 1, wherein the fixed contact arranged on the fixed contact carrier is substantially aligned with the second pole leg [figure 5].

Claim 8, Schedele discloses the magnet system according to claim 7, wherein the fixed contact carrier is offset in a direction of the core [figure 5].

Claim 9, Schedele discloses the magnet system according to claim 1, wherein the magnet system is mounted on a coil body [the bobbin for coil 24, figure 5].

Claim 11, Schedele discloses an electromagnetic relay [figure 5 and 6] comprising: a magnet system having a core body with a core [figure 5, center portion of multi-component yoke 25 through the coil] partially enclosed by a coil [24]; a yoke [left portion of multi-component yoke 25] having a first yoke leg [left portion of multi-component yoke 25 perpendicular to the core] attached to a first end of the core and a second yoke leg [left portion of multi-component yoke 25 above the coil 24] extending parallel to the core having an armature mounting portion [figure 5]; a pole [right portion

of multi-component yoke 25] having a first pole leg [right portion of multi-component yoke 25 perpendicular to the core] connected to a second end of the core and a second pole leg [right portion of multi-component yoke 25 above the coil 24] extending parallel to the core; the magnet system having a fixed contact [29] arranged on a fixed contact carrier [31] substantially aligned with the second pole leg [figure 5], the fixed contact carrier being offset in a direction of the core and arranged in the coil body [figure 5].

Schedele shows a contact carrier [29] secured by insulating blocks [30 and 31] fails to teach exactly how the fixed contact carrier is secured to the insulating blocks.

Hendel discloses a magnet system for a relay [figure 1] wherein the contact carrier [12] has side portions to hold the contact carrier in coil pockets [figure 1].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the contact carrier of Schedele with side portions to hold the contact carrier in coil pockets as shown by Hendel in order to secure the contact carrier and fixed contacts inside the relay.

Schedele in view of Hendel fails to teach that the magnet system is extrusion coated with a plastic material, the coil, the yoke, the pole, and the fixed contact carrier being embedded in the plastic material.

Kern et al teaches an electromagnetic relay wherein the magnet system is extrusion coated with a plastic material [11, 31], the coil [34], the yoke [61], the pole [62], and the fixed contact carrier being embedded in the plastic material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to extrusion coat the magnet system Schedele in view of Hendel as

shown by Kern et al. in order to increase the reliability of the relay by protecting the components from wear and tear by sealing them from the external environment.

Claim 12, Schedele discloses the electromagnetic relay according to claim 11, wherein a sheet-like armature [26] is pivotally mounted on the armature mounting portion, the armature having a spring contact [28] with a switching contact positioned adjacent to the fixed contact [figure 5].

Claim 13, Schedele discloses the electromagnetic relay according to 11, wherein the fixed contact carrier is held by side portions in pockets of a side arm of the coil body [figure 5].

Claim 14, Schedele discloses the electromagnetic relay according to claim 13, wherein the pole is held between the side arm and a first flange of the coil body [figure 5].

Claim 15, Schedele discloses the electromagnetic relay according to claim 12, wherein a free end of the spring contact [28] is movably received between injection molded webs [figure 5].

Claim 16, Schedele discloses the electromagnetic relay according to claim 11, wherein the second pole leg has an upper surface substantially aligned with the armature mounting portion [figure 5]

Claim 17, Schedele discloses the electromagnetic relay according to claim 16, wherein an edge of the armature mounting portion and an edge of the second pole leg are positioned such that a gap is formed therebetween that is bridged by the armature [figure 5].

Claim 18, Schedele in view of Kern et al. discloses the claimed invention exception of the shape of the spring contact. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the shape of the spring contact in order to vary to pressure on the closed contacts in order to reduce contact welding.

Claims 19 and 20, the method for producing a magnet system for an electromagnetic relay is obvious in the product structure as disclosed in claims 1-9 and 11-18 above by Schedele in view of Kern et al.

Response to Arguments

Applicant's arguments with respect to claims 1-9 and 11-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BERNARD ROJAS whose telephone number is (571)272-1998. The examiner can normally be reached on M and W-F, 10:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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